



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,006	01/16/2004	Nobuyuki Ashida	1248-0683P	6255
2292 7590 04/05/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER FLORES, LEON	
			ART UNIT	PAPER NUMBER
			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/05/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/05/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

58

Office Action Summary	Application No. 10/758,006	Applicant(s) ASHIDA, NOBUYUKI	
	Examiner Leon Flores	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 1-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/16/2004</u> <u>3110104</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 8 should be designated by a legend such as **--Prior Art--** because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2611

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art, and in view of Cai et al (hereinafter Cai) (US Patent 5,029,182).

Re claim 1, Applicant's prior art discloses an integrated circuit of a front-end type for receiving a high frequency signal, comprising: an RF circuit including a variable gain amplifier (See fig. 8: 110); a digital demodulating circuit including an amplification rate control circuit (See fig. 8: 120); the internal signal being outputted from the digital demodulating circuit. (See fig. 8: the output of element 122) the RF circuit and the digital demodulating circuit being integrated in one package (See fig. 8: 100). But applicant's prior art fails to disclose a switching means for switching between (a) inputting an internal signal, as an amplification rate control signal, into the variable gain amplifier via an automatic gain control loop, and (b) directly inputting a fixed value signal, as another amplification rate control signal, into the variable gain amplifier by opening the automatic gain control loop, and the switching means being switched over in accordance with a switching control signal.

However, Cai does. (See fig. 3 & col. 4, lines 34-68) Cai discloses an AGC loop comprised of a switch, A/D converter, D/A converter, and a digital controller. The output of the AGC generator is coupled to the switch which is connected to selectively open or close the standard AGC control loop.

Therefore, taking the combined teachings of applicant's prior art and Cai as a whole. It would have been obvious to one of ordinary skill in the art to have included a switching device for selectively switching between two AGC signals into the system of applicant's prior art, as taught by Cai, for the benefit of calculating the optimum AGC value. (See col. 5, lines 30-38)

Re claim 3, the combination of applicant's prior art and Cai further discloses that switching control signal generating means for outputting the switching control signal. (In Cai, see fig. 3: 36. Furthermore, the control signal is supplied from a digital controller.)

Re claim 5, the combination of applicant's prior art and Cai further discloses that further comprising: test-use fixed value signal generating means for outputting the fixed value signal. (In Cai, see fig. 3: the output of element 32. Furthermore, the digital controller supplies the optimum AGC value to the variable amplifier when the AGC closed loop is disconnected. The optimum AGC value is computed with a statistical method. (See col. 5, lines 30-32)

Re claim 6, the combination of applicant's prior art and Cai further discloses that wherein: the digital demodulating circuit includes, in the automatic gain control loop, the amplification rate control circuit having an amplification rate control signal generating apparatus for generating the amplification rate control signal that is to be supplied to the variable gain amplifier in the RF circuit (In applicant's prior art, see fig. 8: 120), and the switching means located upstream to the amplification rate control signal generating apparatus. (In Cai, see fig. 3: 28)

6. Claims (2, 4 & 7) is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art and Cai et al (hereinafter Cai) (US Patent 5,029,182), and further in view of Sugano (JP 2001068953A).

7. Re claim 2, the combination of applicant's prior art and Cai fails to discloses that wherein: the switching control signal is supplied from outside. However, Sugano does. (See abstract & paragraphs 17 & 19) Sugano discloses an AGC circuit that can be switch from an automatic mode to an manual mode by means of a switch.

Therefore, taking the combined teachings of applicant's prior art, Cai, and Sugano as a whole. It would have been obvious to one of ordinary skill in the art to have incorporated this feature into the system of applicant's prior art, as modified by Cai, and as taught by Sugano, for the benefit of providing manual gain control.

Re claim 4, the motivation for combining these references has already been established in claim 2 above, therefore, the combination of applicant's prior art, Cai, and Sugano further discloses that wherein: the fixed value signal is a test-use control voltage supplied from outside. (In Cai, see fig. 3: the output of element 32. Furthermore, the digital controller supplies the optimum AGC value to the variable amplifier when the AGC closed loop is disconnected. The optimum AGC value is computed with a statistical method. (See col. 5, lines 30-32) (In Sugano, see paragraph 19 & 20. Furthermore, the control voltage is supplied via a manual gain setting.)

Re claim 7, the motivation for combining these references has already been established in claim 2 above, therefore, the combination of applicant's prior art, Cai, and Sugano further discloses that wherein: the amplification rate control circuit has test-use amplification rate control signal generating means for outputting a test-use amplification rate control signal to the amplification rate control signal generating apparatus via the switching means, the test-use amplification rate control signal corresponding to the fixed value signal. (In Sugano, see fig. 1: 11 & paragraph 18. Furthermore, when operating in an open loop "manual setting" the signal is supplied to the gain control terminal via switch 9.)

Applicant's prior art discloses an integrated circuit of a front-end type for receiving a high frequency signal, comprising: an RF circuit including a variable gain amplifier (See fig. 8: 110); a digital demodulating circuit including an amplification rate control circuit (See fig. 8: 120); the internal signal being outputted from the digital demodulating circuit.

Art Unit: 2611

(See fig. 8: the output of element 122) the RF circuit and the digital demodulating circuit being integrated in one package (See fig. 8: 100).

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art, and in view of Roberts et al (hereinafter Roberts) (US Patent 5,142,695) and further in view of Motojima (JP 360019311A).

Re claim 1, applicant's prior art discloses an integrated circuit of a front-end type for receiving a high frequency signal, comprising: an RF circuit including a variable gain amplifier (See fig. 8: 110); a digital demodulating circuit including an amplification rate control circuit (See fig. 8: 120); the RF circuit and the digital demodulating circuit being integrated in one package (See fig. 8: 100). But applicant's prior art fails to disclose a switching means for switching between (a) inputting an internal signal, as an amplification rate control signal, into the variable gain amplifier via an automatic gain control loop, the internal signal being outputted from the digital demodulating circuit and the switching means being switched over in accordance with a switching control signal.

However, Roberts does. (See fig. 1 & col. 5, lines 32-50, line 65 – col. 6, line 2. Roberts discloses a MUX (switch) for selectively inputting either an AGC signal from element 46 or a ramp signal from element 52. The CPU 24 controls the output of the MUX by selecting which of the inputs (AGC or ramp) will be inputted to the VGA 16.

Therefore, taking the combined teachings of applicant's prior art and Roberts as a whole. It would have been obvious to one of ordinary skill in the art to have included a

Art Unit: 2611

switching device for selectively switching between two signals into the system of applicant's prior art, as taught Roberts, for the benefit of providing automatic gain control to the variable gain amplifier.

The combination of applicant's prior art and Roberts disclose the limitations as claimed, except they do not specifically disclose (b) directly inputting a fixed value signal, as another amplification rate control signal, into the variable gain amplifier by opening the automatic gain control loop.

However, Motojima does. (See fig. 2: 11 & abstract) Motojima discloses an automatic gain control loop being disconnected by switching the input of the variable gain amplifier to a fixed bias 11.

Therefore, taking the combined teachings of applicant's prior art, Roberts, and Motojima as a whole. It would have been obvious to one of ordinary skill in the art to have included a switching device for selectively switching between an AGC signal and a fixed value into the system disclosed by applicant's prior art, as modified by Roberts and taught by Motojima, for the benefit of setting the gain of the variable amplifier to the standard gain, thus, avoiding the amplifier from being operated at the saturated output level. (See abstract)

Allowable Subject Matter

9. Claims (8 & 9) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Re claim 8, the further limitation, *"a switching circuit for switching between, in accordance with an output draw-out switching control signal, (a) inputting a base band analog output to the digital demodulating circuit, and (b) outputting the base band analog output to outside via an inspection-use output terminal, the base band analog output being outputted from the RF circuit"*. Claim 9 depends on claim 8.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Flores whose telephone number is 571-270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

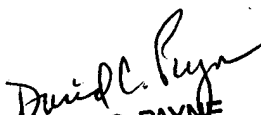
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LF

March 13, 2007


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER